

**DATA+AI**  
SUMMIT 2022

# Building Next-Gen Enterprise Scale Data & Analytics Platform



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ORGANIZED BY  databricks

# AMGEN® – WHO WE ARE, WHAT WE DO

One of the **World's**  
leading independent  
biotechnology companies

~100

COUNTRIES

MILLIONS



PATIENTS

DATA+AI  
SUMMIT 2022



25

PRODUCTS  
WORLDWIDE



Sensipar®  
(cinacalcet) Tablets  
30mg-60mg-90mg

Repatha®  
(evolocumab) injection  
140 mg/mL

Kyprolis.  
(carfilzomib) for injection

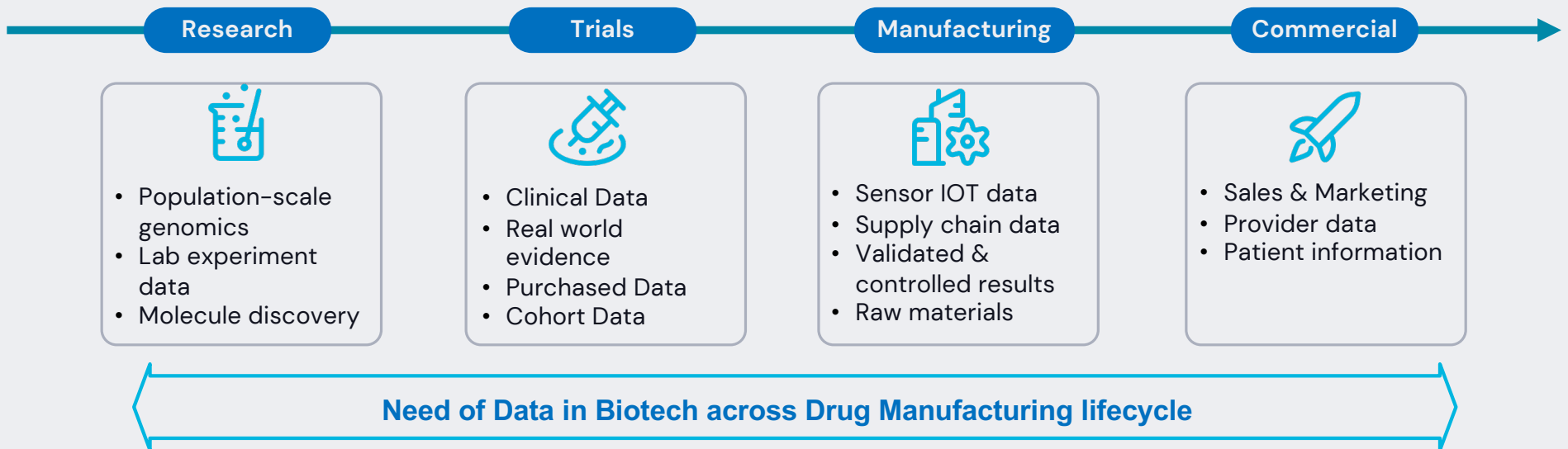
XGEVA®  
(denosumab)

prolia®  
(denosumab) injection

BLINCYTO®  
(blinatumomab) for injection  
35 mcg single-use vial

AMGEN®

# DRUG DISCOVERY TO PRODUCT LAUNCH : DATA IS AT THE CORE OF AMGEN'S BUSINESS



## Data in Siloes

Increased needs    Fragmented    Dark data



## Limited Insights

Slow Performance    Low Quality    Not in time

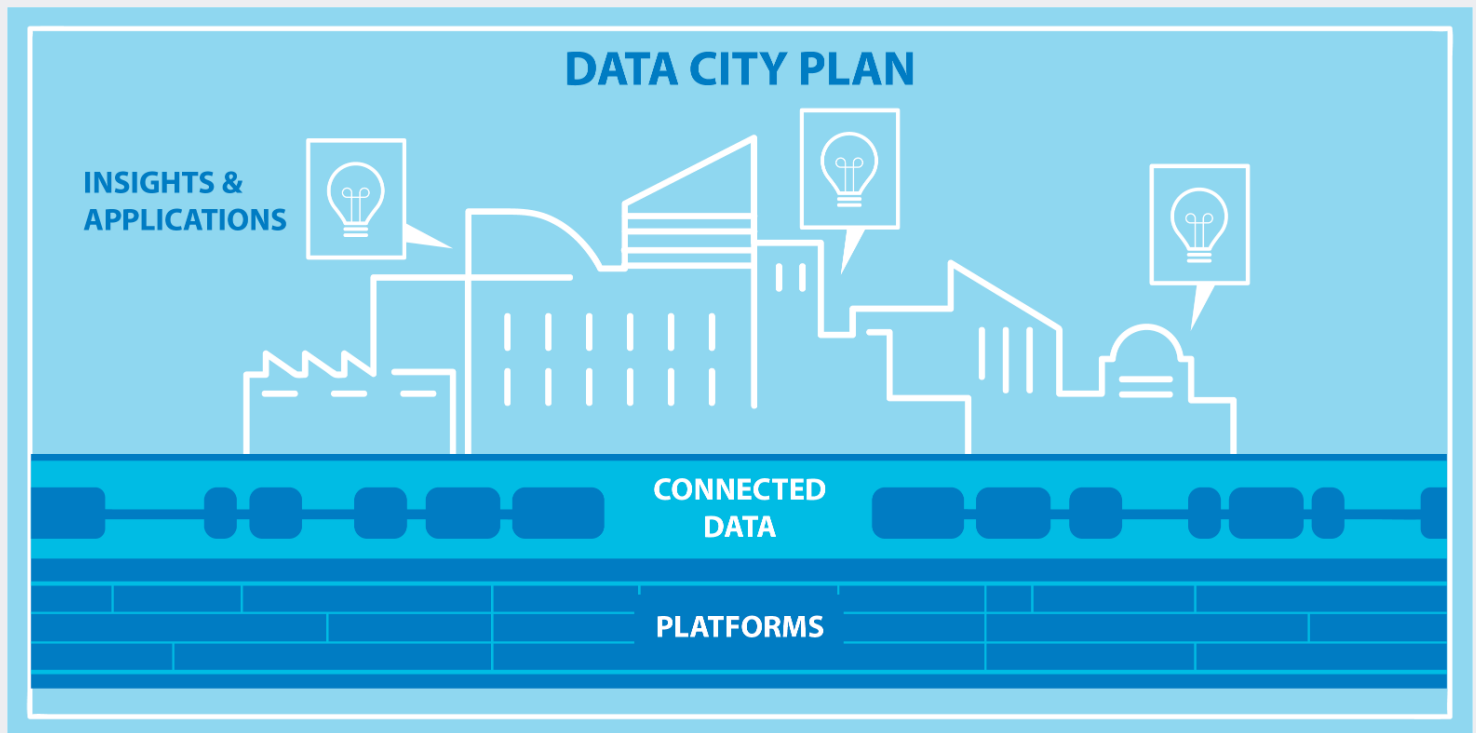


## Complex Technology

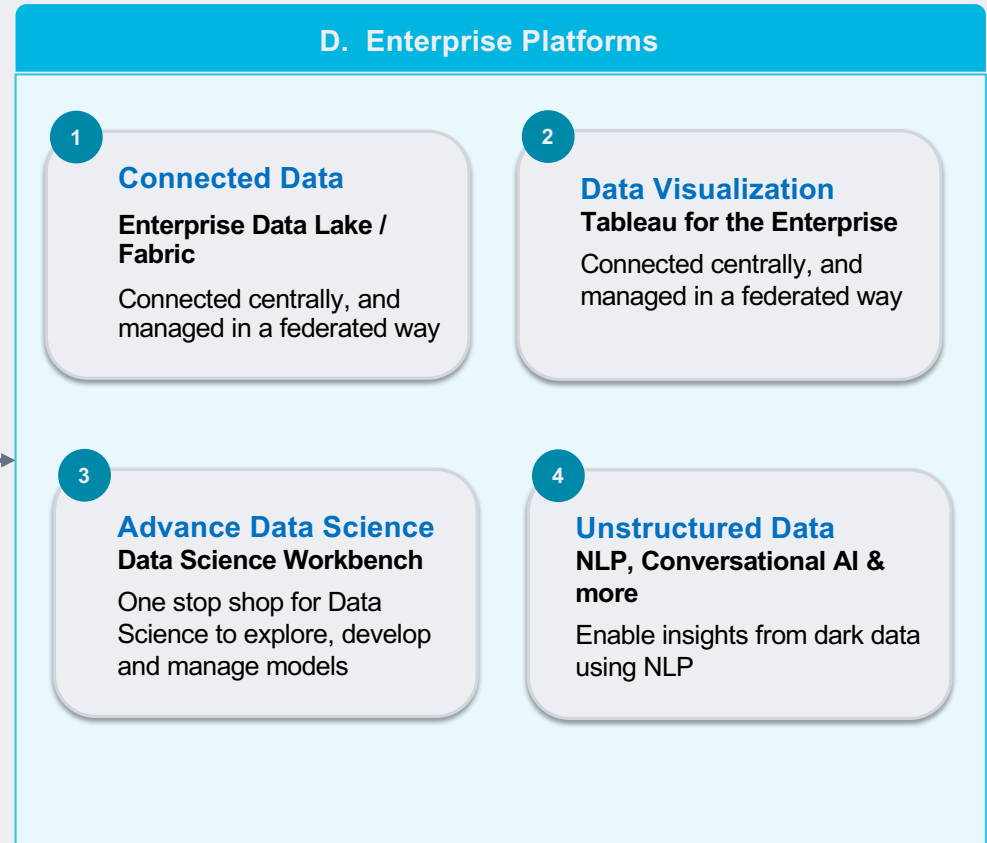
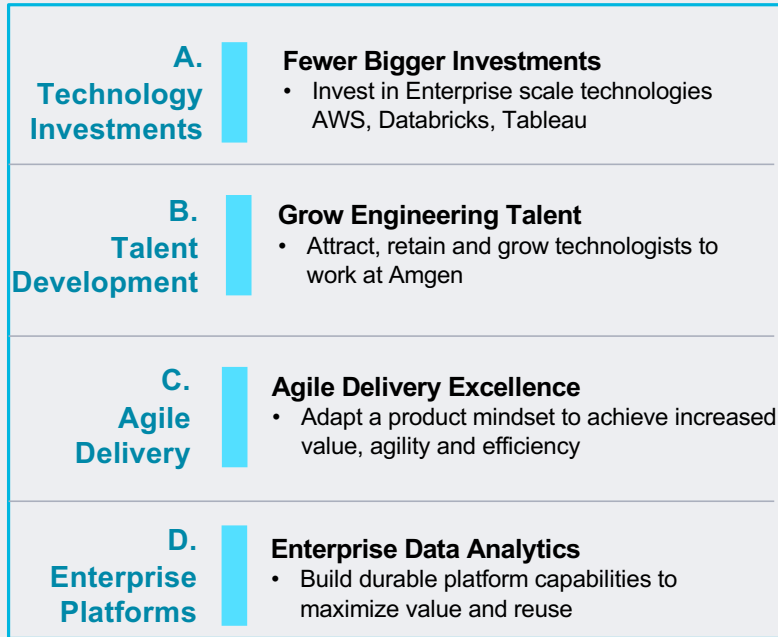
Too Many Choices    Complex & Expensive

# SUPPORTING BUSINESS NEEDS REQUIRES A HOLISTIC ENTERPRISE STRATEGY TO DEVELOP A 'DATA CITY PLAN'

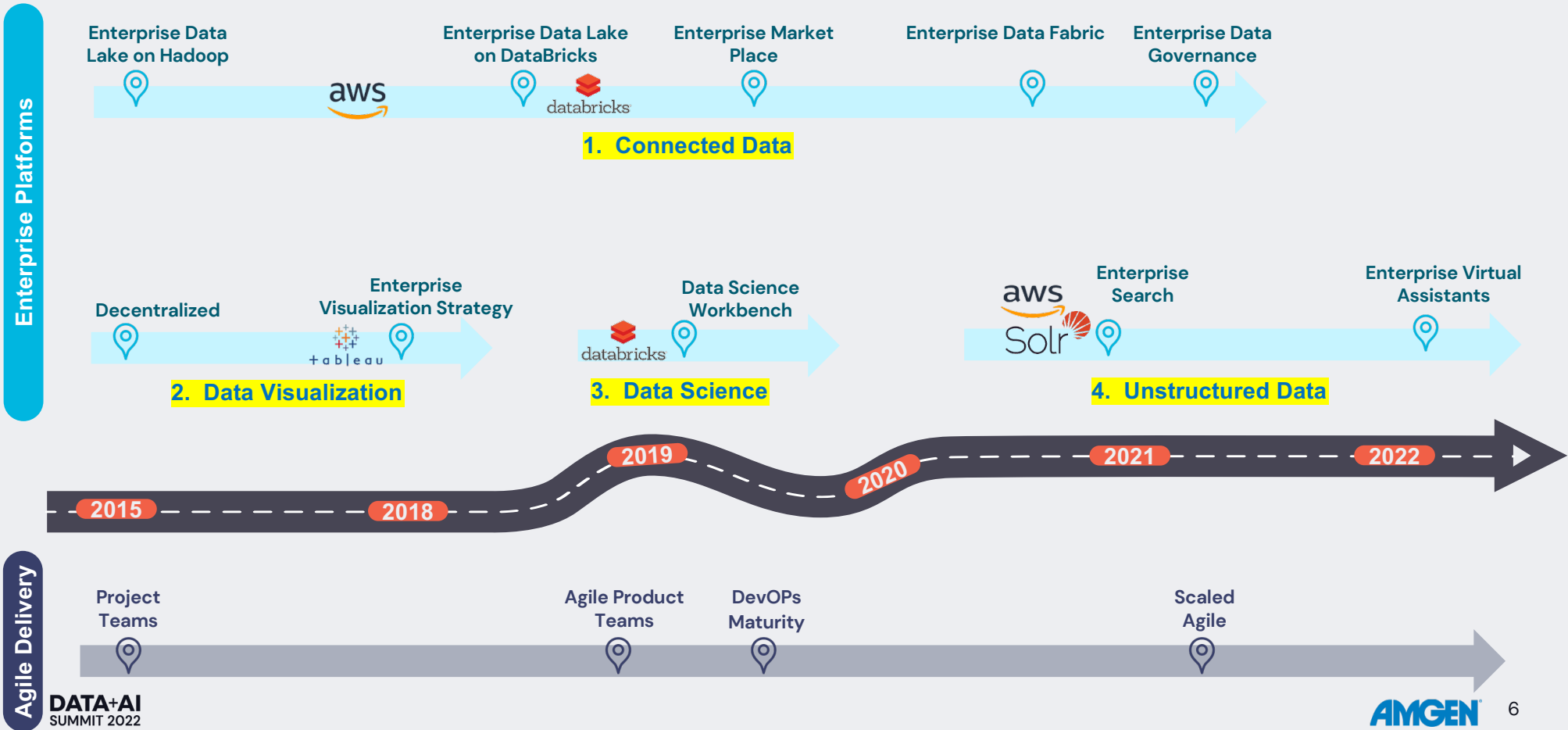
- **Enterprise Platforms** to create durable technology capabilities
- **Connected Data Fabric** by appropriately organizing, storing, and accessing data
- **Insights & Applications** that drive business decisions



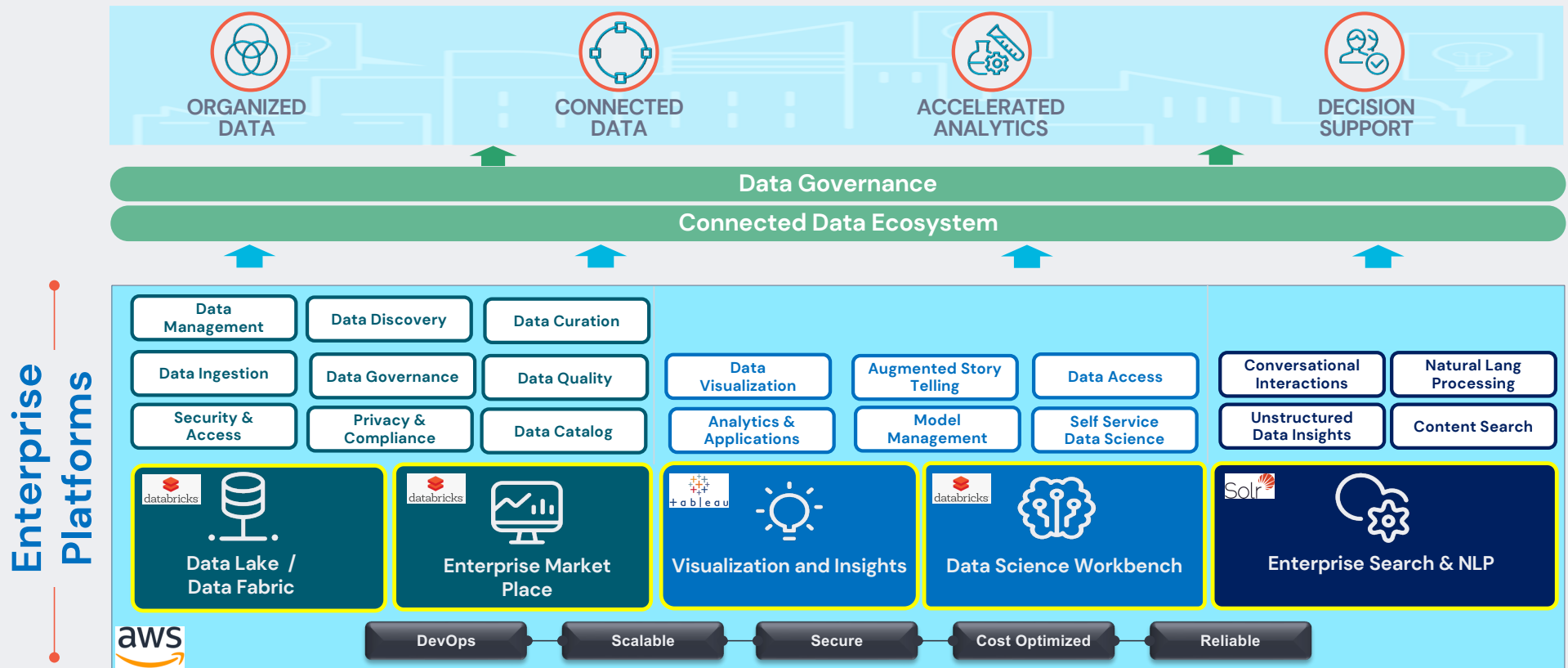
# STRATEGIC CHOICES MADE TOWARDS BUILDING ENTERPRISE SCALE PLATFORMS



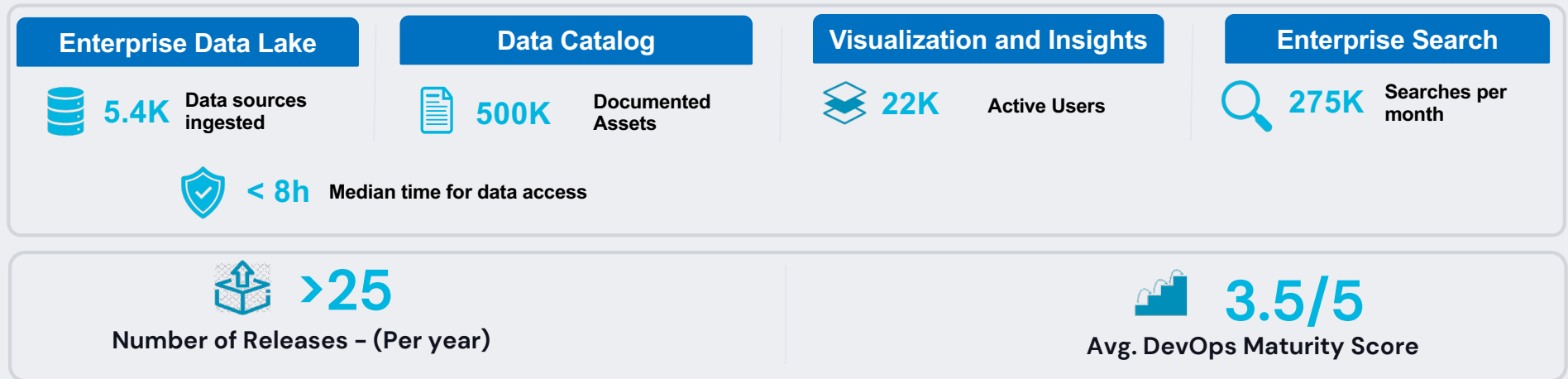
# A JOURNEY TOWARDS DEMOCRATIZATION OF DATA ANALYTICS, THROUGH DURABLE ENTERPRISE PLATFORMS



# A 'SUITE OF PLATFORMS' AS BUILDING BLOCKS FOR THE DATA CITY PLAN STRATEGY ACROSS R&D, OPERATIONS AND COMMERCIAL



# ENTERPRISE PLATFORM – UTILIZATION AND VALUE DELIVERED TO THE BUSINESS



## IMPACT

- 1 Lower TCO**  
Optimized licenses, infrastructure and administration
- 2 Faster time to market**  
Accelerate digital journey
- 3 Data democratization**  
across the enterprise to break down siloes
- 4 Increased Value of Data**  
for the business



## WHAT WE LEARNED IN OUR JOURNEY SO FAR



**Talent**, Talent and Talent

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**Agility is key** - Ensure there is a fail-fast culture balanced with innovation

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**User Adoption & Engagement** with focus on value delivery through customer centric approach

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**Reliability and TCO** must be balanced with speed of delivery and innovation



**Technology Strategy** to take bigger bets in fewer Enterprise scale technologies

LESSONS  
LEARNED

## WE'RE HIRING!

*Come Live, Win, and Thrive with us!*

**AMGEN**

## Explore opportunities at Amgen

At Amgen, we recognize the hard work and dedication it takes to pursue a degree. We value the skills, practical experience and professional acumen gained on your journey. That's why we offer outstanding opportunities to learn, contribute and ideally launch an internship or full-time career at Amgen. Our mission to serve patients drives all that we do. This shared purpose is key to our becoming one of the world's leading biotechnology companies, launching new medicines that reach over 10 million patients worldwide.

DEFY IMAGINATION  
CAREERS.AMGEN.COM



# ZS IS A GLOBAL PROFESSIONAL SERVICES FIRM COMMITTED TO DRIVING CLIENT IMPACT THROUGH EXPERTISE, INNOVATION AND FLEXIBLE OPERATING MODEL

**14,000+** ZSer's who are committed to helping our clients and their customers thrive

**35+**

Years applying innovation to help clients win and grow

**30** OFFICES WORLDWIDE

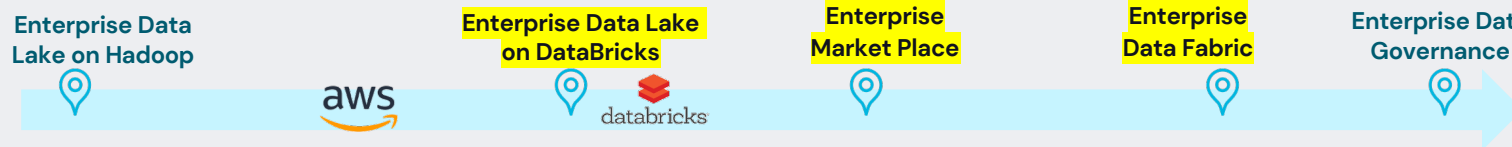


BARCELONA + BOSTON + BENGALURU + BUENOS AIRES + CAMBRIDGE + CHICAGO + EVANSTON + FRANKFURT + LONDON + LOS ANGELES + MILAN + NEW DELHI + NEW YORK + OSAKA + PARIS + PHILADELPHIA + PRINCETON + PUNE + SAN DIEGO + SAN FRANCISCO + SÃO PAULO + SEATTLE + SHANGHAI + SINGAPORE + TOKYO + TORONTO WASHINGTON DC + ZÜRICH

**1,200+** CLIENTS HAVE EXPERIENCED ZS DIFFERENTIATION ACROSS 30 INDUSTRIES IN OVER 90 COUNTRIES

# A JOURNEY TOWARDS DEMOCRATIZATION OF DATA ANALYTICS, THROUGH DURABLE ENTERPRISE PLATFORMS

Enterprise Platforms



## 1. Connected Data



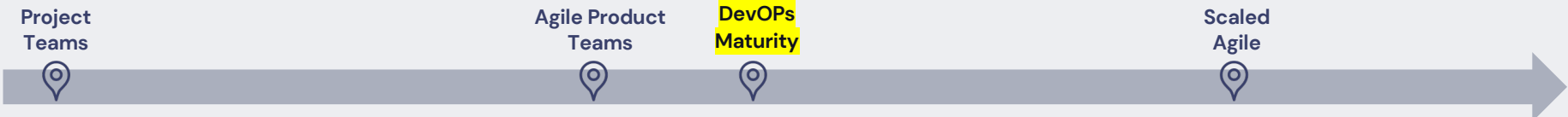
## 2. Data Visualization

## 3. Data Science

## 4. Unstructured Data



Agile Delivery



# HIGHLIGHTS OF MARQUEE PROBLEMS AND SOLUTIONS

Ways of working



Agile and DevOps

Connected Data



Data Lake & Data Fabric

Discovery & Governance



Enterprise Market Place

Insights from Unstructured Data



Enterprise Search



# WAYS OF WORKING



## Problem Statement

- Need for agility and speed
- Ambition to release frequently
- Inconsistency in measuring progress



## Benefits / Considerations

### Productivity

- Better productivity of engineers
- More autonomy

### User Experience

- Monthly releases
- Increased reliability

### Business Value

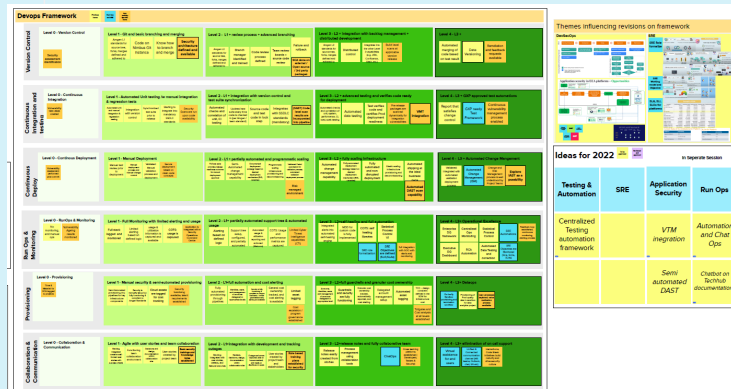
- Lower technical debt
- Lower maintenance costs



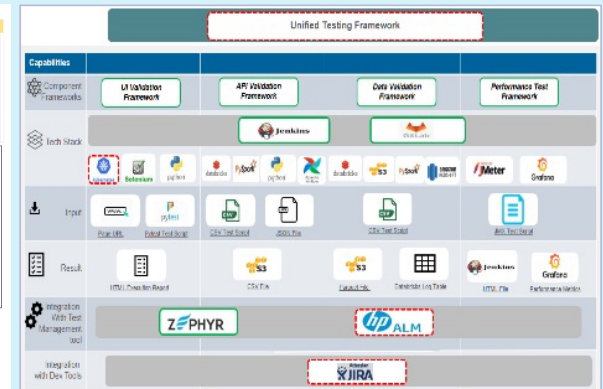
## Solution



Product Teams  
Scrum, SAFe



DevOps Maturity Model



Hyper focus on test automation



# CONNECTED DATA

## Problem Statement

- Explosion of analytics apps
- Duplicative capability spend
- Elusive cross-functional insights
- Silos owing to data privacy

## Benefits / Considerations

### Productivity

- Self service for app developers
- Reusable patterns for efficiency

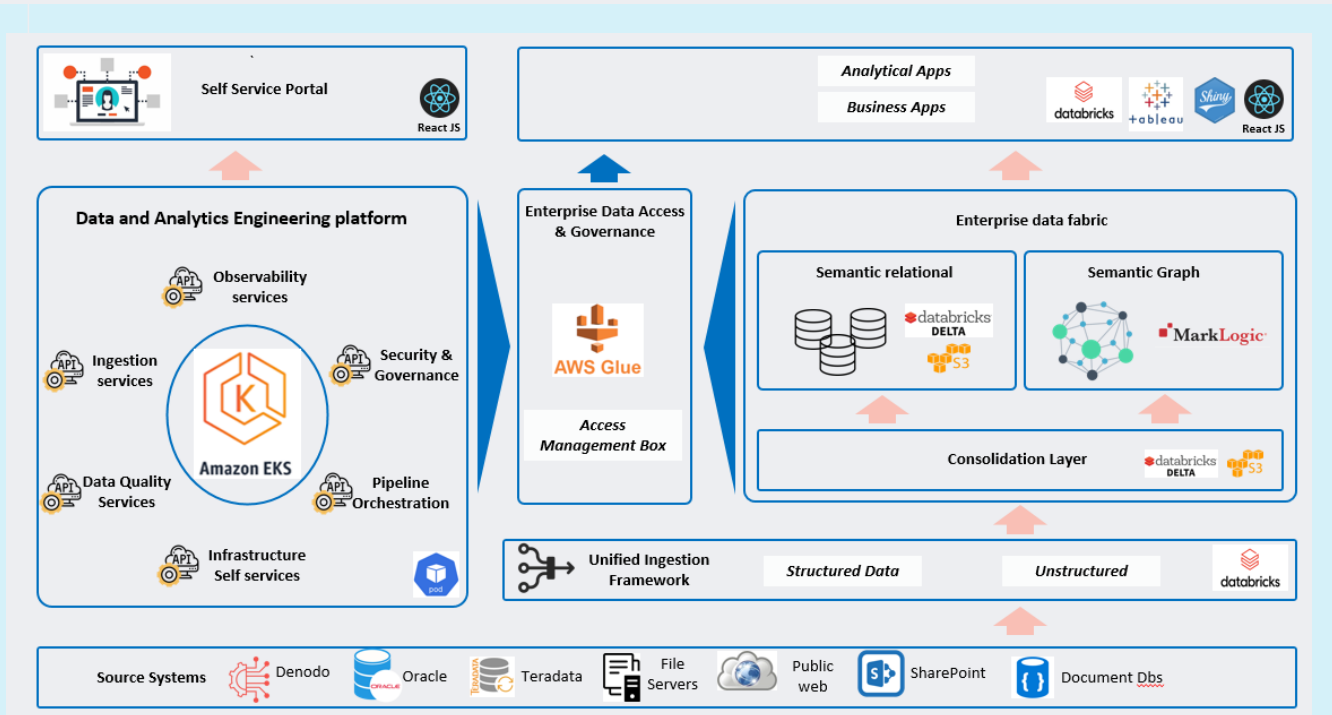
### User Experience

- Co-located + connected + centrally accessible data



### Business Value

- Durable capabilities eliminate duplicative spend
- Cross-functional insights

## Solution



**Self Service Portal**

React JS

**Analytical Apps**

**Business Apps**






**Data and Analytics Engineering platform**



Observability services


Ingestion services

Data Quality Services


Infrastructure Self services

Security & Governance

Pipeline Orchestration






**Enterprise Data Access & Governance**





**Access Management Box**

**Enterprise Data Fabric**



**Semantic relational**

**Semantic Graph**

**Consolidation Layer**


**Unified Ingestion Framework**


**Structured Data**

**Unstructured**




**Source Systems**







File Servers



Public web



SharePoint



Document Dbs





# DISCOVERY & GOVERNANCE



## Problem Statement

- Findability & Accessibility of data
- Disconnected data producers & consumers
- Data reusability challenging for multiple reasons



## Benefits / Considerations

### Productivity

- Data scientists & engineers
- <8 hrs median time to get access

### User Experience

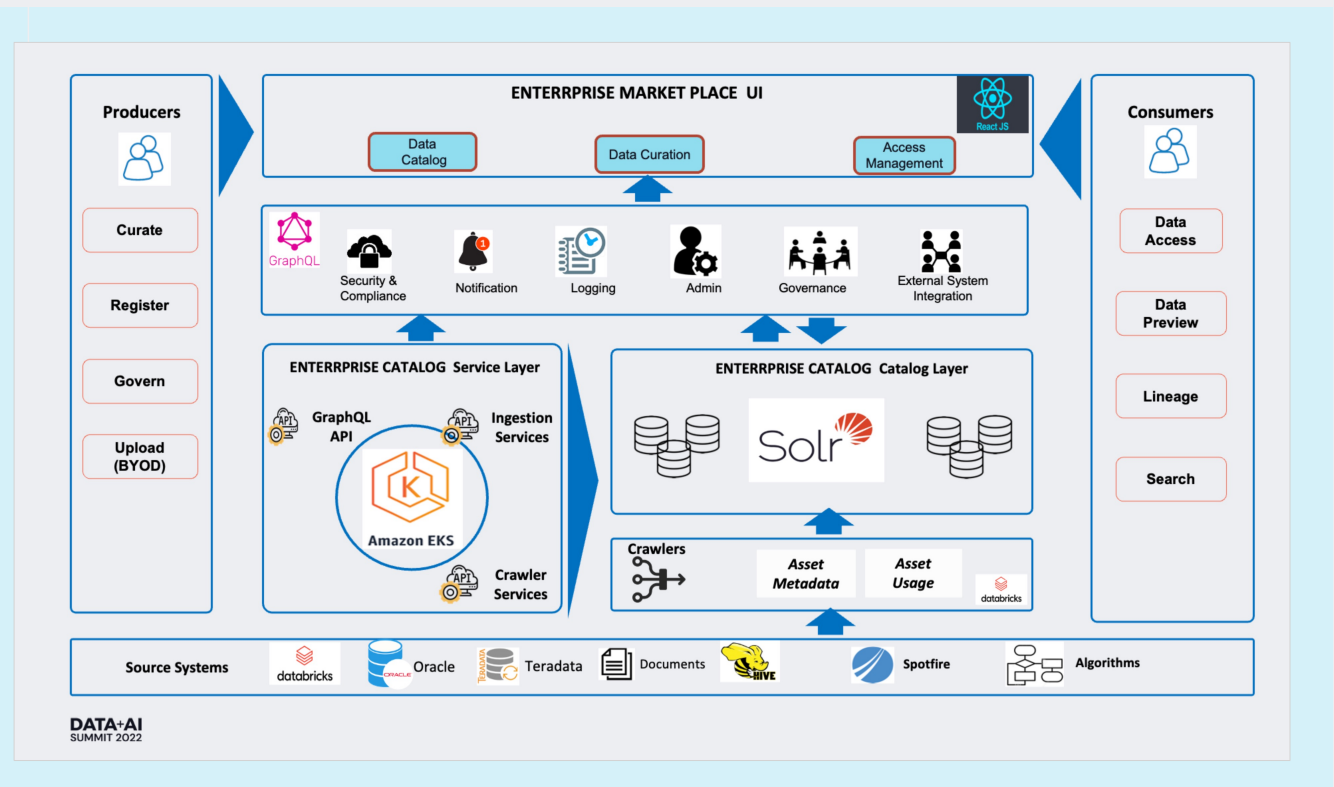
- Search anything
- Browse curated storefronts

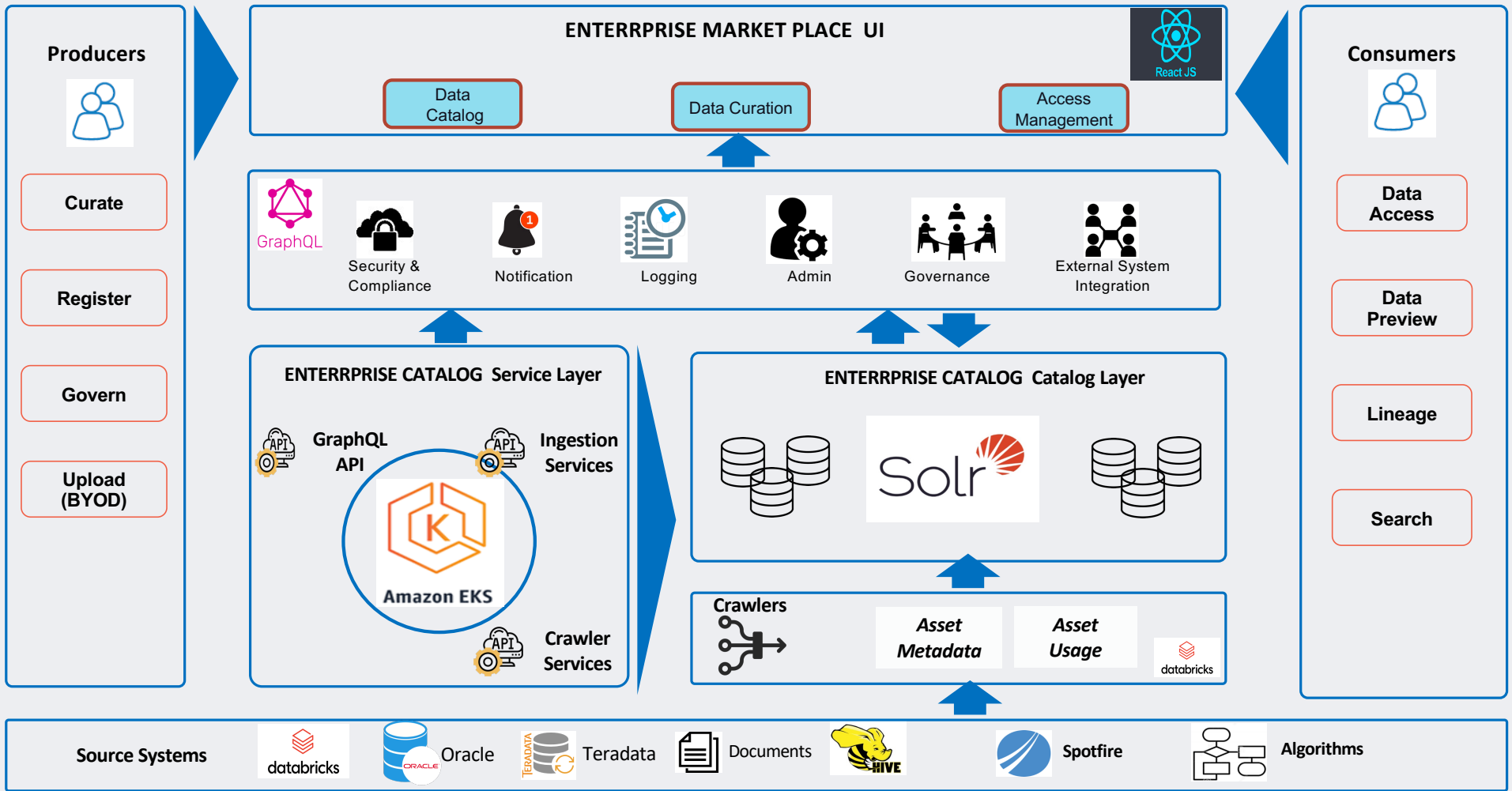
### Business Value

- Reuse data assets
- Easily govern data assets



## Solution







# INSIGHTS FROM UNSTRUCTURED DATA

## Problem Statement

- Vast amounts of unstructured data
- Difficult to find content and extract insights
- Lack of standardization of data
- Increasing need for unified insights from structured + unstructured data

## Benefits / Considerations

### Productivity

- Corporate staff
- Knowledge workers

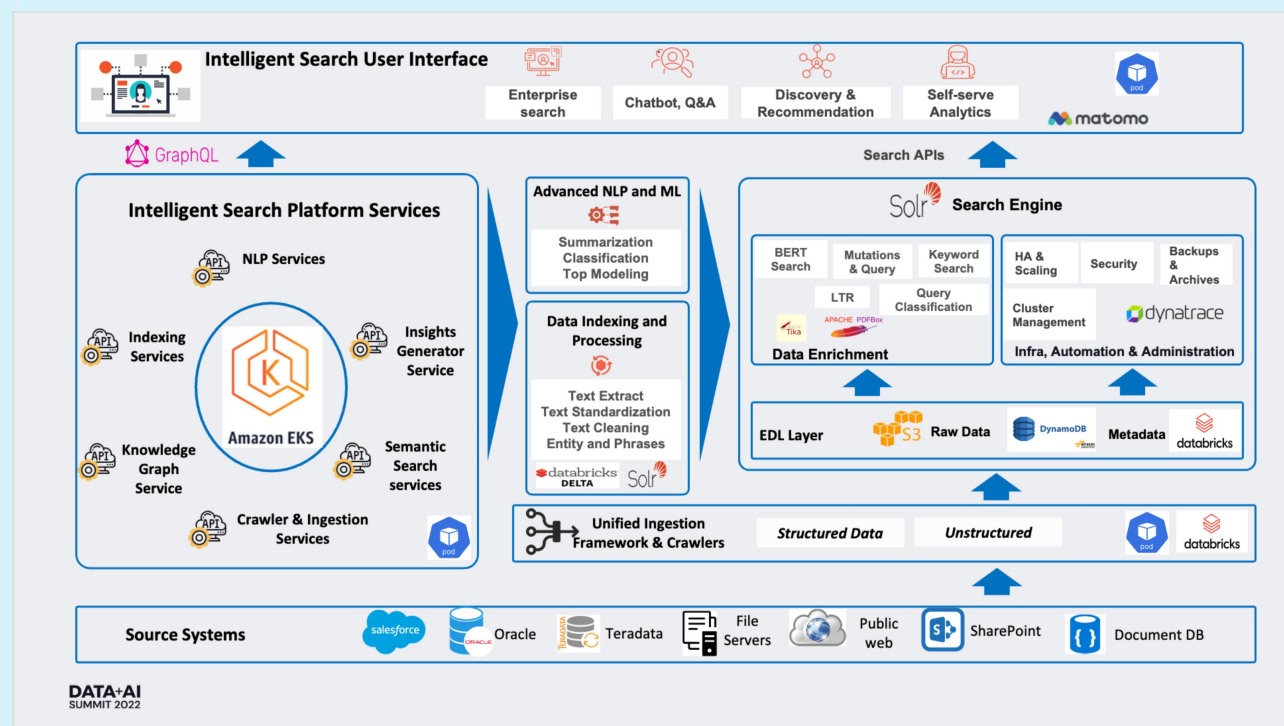
### User Experience

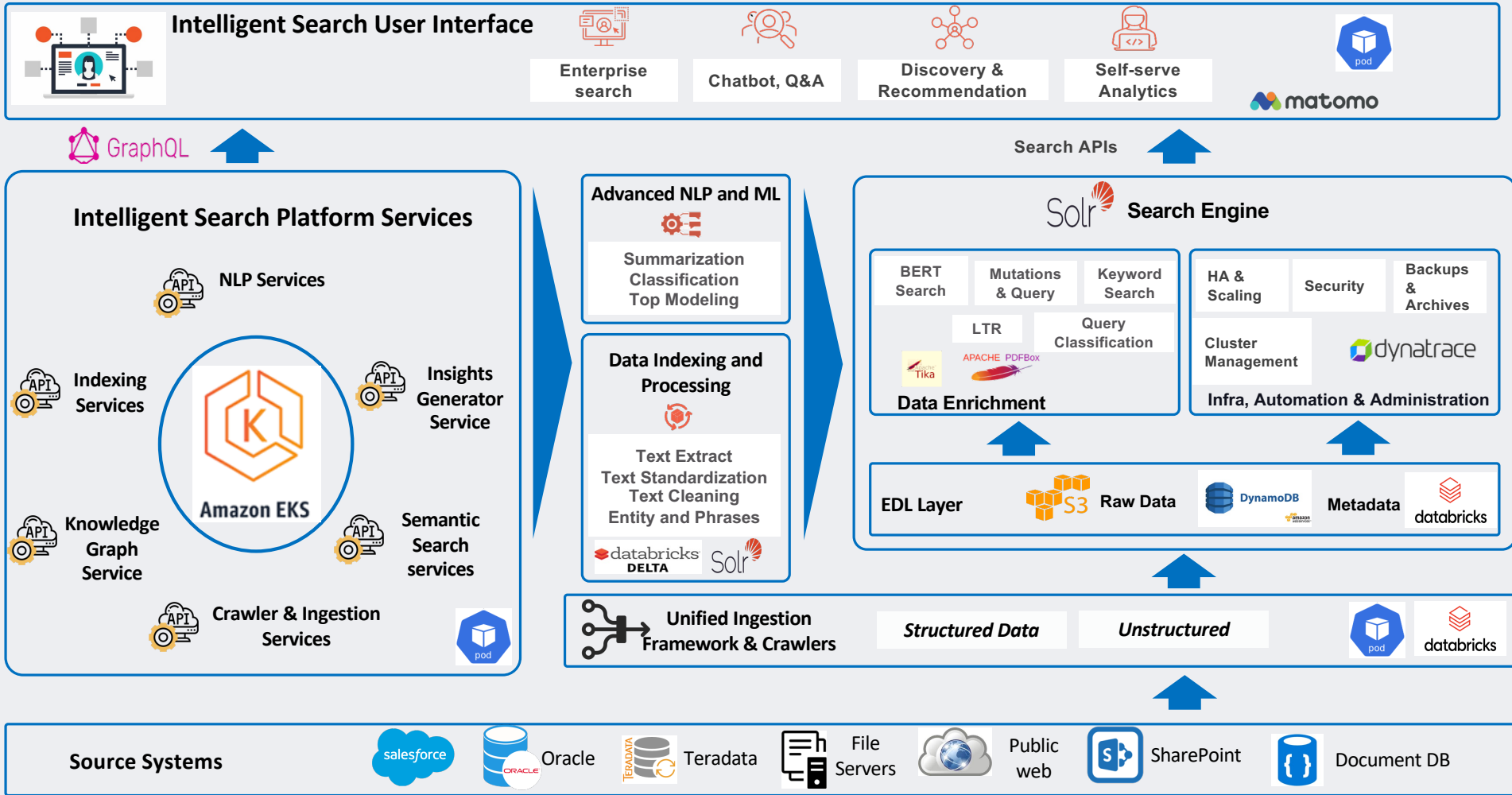
- New ways to interact with data
- Contextual search results
- Integrated in corporate portal

### Business Value

- Reduce analytics outsourcing
- Net new analytics capability

## Solution





**THANK YOU**